

The MGH Hand Hygiene Program: “Clean Because We Care”



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The Massachusetts General Hospital (MGH) Hand Hygiene Program started as a multidisciplinary effort to improve hand hygiene compliance at MGH, and it has evolved into a comprehensive and successful program that has been followed by reductions in transmission of healthcare-associated pathogens.

Since its inception, hand hygiene compliance rates at MGH have increased from 8% to 90% “before contact” with the patient or patient’s environment, and from 47% to 93% “after contact.” These rates meet or exceed the 90% compliance expectations set by the Joint Commission. Some inpatient units have achieved the hospital’s ultimate goal of 100%.

During that same time period, changes were made in expectations for hand hygiene practice at MGH, and the policies and guidelines set by the MGH Infection Control Unit were updated. They currently meet or exceed the “Guideline for Hand Hygiene in Health-Care Settings,” established by the Centers for Disease Control (CDC) in 2002.

As its hand hygiene practices and compliance improved, MGH observed a significant and sustained decrease in its rates for healthcare-associated cases of methicillin-resistant *Staphylococcus aureus* (MRSA). That rate was cut in half, despite a two-fold increase in the number of patients who arrive at MGH with MRSA infection.

Background and History

Hand hygiene is the single most important action that a health care worker (HCW) can take to stop the transmission of pathogens and reduce the risk of infections. According to the CDC, healthcare-associated infections account for an estimated 1.7 million infections and 99,000 associated deaths each year in the United States alone. Many of these infections are spread by the hands of healthcare workers (HCWs) and could be prevented through the use of hand hygiene.

By the year 2000, numerous studies had shown that the average compliance rate for hand hygiene among HCWs was less than 50%. Random surveys conducted on inpatient units at MGH showed that our compliance rates were no better than average. A special task force was formed to address the issue, and that group has since evolved into the STOP Task Force, which remains the coordinating group for the Hand Hygiene Program. (*The name "STOP" is an acronym for "Stop the Transmission of Pathogens."*)

Between 2000 and 2002, an alcohol-based handrub was introduced at MGH, providing HCWs with a new method of hand hygiene that was faster to use, more effective, and better tolerated than handwashing, which was previously the only method available. After a brief trial, the product chosen, Cal Stat, was reformulated by the manufacturer based on feedback from MGH staff. A poster series was launched, and other improvement initiatives were piloted on a small number of units, including education, surveys, feedback, Champions and rewards. A full-time RN was hired to monitor compliance rates through regular surveys on most inpatient units and support the new initiatives.

In 2002, the CDC established new hand hygiene guidelines for health care workers, and those guidelines were incorporated into the MGH practices and policies. Hand hygiene is expected both before and after contact with the patient or the patient's environment. The use of an alcohol-based handrub is recommended over washing with soap and water. Excessive handwashing is discouraged, but washing with soap and water is still required at three specific times: when hands are visibly soiled, after using the bathroom, and before eating. HCWs are advised to use a hospital-supplied skin moisturizer at least twice per shift, in order to promote good skin integrity. Gloves are not allowed to be used as a substitute for hand hygiene. The CDC also made later recommendations for fingernails, and those recommendations were also adopted into MGH practice and policy.

In 2004, the successful components of the pilot programs were rolled out hospitalwide. First, the initiative was introduced to leaders from Patient Care Services, then unit-based Champions were recruited and trained for their roles as peer leaders. The program was then introduced to hospital staff through a series of brief on-site visits to all inpatient units and many support service areas on all three shifts by RNs from the Infection Control Unit and the hospital's Center for Clinical and Professional Development. The rollout sessions covered the major components and goals of the program, announced the launch of pizza party "rewards" for the top-performing units, reviewed the hand hygiene expectations, and requested personal support for the program.

Since the "Rollout of 2004," the MGH Hand Hygiene Program has continued to grow and expand. It has maintained a positive focus, achieved its goals, and more recently has served as a model program for other institutions.

Major Components of the MGH Hand Hygiene Program

The major components of the MGH Hand Hygiene Program include a multidisciplinary approach, education, product availability, surveys and feedback, local Champions, posters and publicity, goals and rewards, patient and visitor involvement, leadership involvement, program expansion, and cultural change. All of these components require the continued efforts and support of the STOP Task Force members, Infection Control Unit, unit-based Champions, and hospital leaders.

Multidisciplinary planning and support group

The STOP Task Force meets on a monthly basis, and its members come from a variety of departments and positions, including Infection Control, Building & Grounds, Nursing Leadership, Public Affairs, IS specialists, Nutrition & Food Service, Occupational Health, Radiology, Clinical Nurse Specialists, educators, operations coordinators and physicians. Each member brings special talents and resources to the program.

Education: staff, physicians, patients and visitors

Education is the backbone for successful improvement, and it must reach all people across all levels of the organization, including patients and visitors. Hand hygiene expectations are described to all new employees during New Employee Orientation and are reviewed during annual Infection Control training sessions. A special hospital-produced video is also shown to new employees. Special focused sessions are provided to any small or large group upon request, or when a particular need is identified. Various educational methods are used, depending on the group and the allotted time, but may include PowerPoint presentations, informal discussions, role playing, interactive training, group quizzes and contests, the MGH video, booklets, brochures, handouts and informational displays. Written materials developed for the program include a colorful easy-to-read booklet that provides a quick review of the 2002 CDC guidelines. It is suitable for busy professionals, Champions, staff members of any level, and even patients and visitors. A one-page “Handwashing” document was also developed for patients and visitors and includes a sidebar about handrubs. It is displayed in some waiting areas and used as a handout at public information tables. Hand hygiene brochures are also available to employees through the Occupational Health Service.

A special video entitled, “Clean Hands are Healthy Hands” was written and recorded at MGH in 2006 to educate patients and visitors about the importance of hand hygiene in the health care setting, but it is also used to educate HCWs. It encourages patients to ask their caregivers if they used hand hygiene by featuring a patient who asks her nurse that question in a non-confrontational way, and it encourages patients to remind their visitors to use it too. The video is available to patients in both English and Spanish on the hospital’s educational TV station, and there are plans to install posters in each patient room with instructions on how to access the video in both languages. It is also available to staff online, featured at many educational presentations and special events, and there are plans to include a link to it on hospital-based websites.

Product availability

Alcohol-based handrub is available in wall dispensers outside of every patient room, inside many semi-private and examination rooms, and in many “high touch” locations throughout the hospital. Pump-style bottles can be used where wall dispensers are not feasible. Pocket-sized bottles are not allowed in the clinical areas because of the risk for pocket/clothing contamination, but they are sometimes distributed as handouts at training sessions and special events. At least one or two skin cream dispensers are located in each clinical area, and soap is available at all sink locations.

Compliance surveys and feedback

Compliance surveys are conducted on all inpatient units, except where heightened security, closed doors, or privacy issues may interfere with the ability to make observations or cause concern for patients. Surveys are also conducted in several outpatient areas and all radiology areas. The surveys are conducted by 1.5 FTE RNs dedicated to the Hand Hygiene program, and by trained managers in the radiology areas.

Compliance is measured by direct observation of staff, physicians, students, and volunteers present on the unit. Hand hygiene actions (or non-actions) are observed before and after contact with the patient or patient's environment, and recorded along with the precaution status of the patient and the role group of the person being observed. The role group is determined by actions, apparel, and/or overheard conversations.

Observations are made during 15-minute periods on a patient care unit. As many observations as possible are made during this period, but only one "before" and/or "after" observation is recorded per person during this time, so as not to oversample any single individual's behaviour. Only the initial actions (or inactions) and those actions for which the worker was observed to have contact with the patient or the patient's environment are recorded.

The role of the observer is to collect representative data to maintain an accurate assessment of hand hygiene compliance. The observer does not confront or correct noncompliant individuals, but may provide feedback to an ICP or unit leader. If observers are asked what they are doing, they respond that they are doing an Infection Control survey.

The 15-minute observation periods on units follow a schedule designed to provide representative sampling across most shifts on all weekdays and occasional weekends.

Observations are recorded on paper during surveys and are entered later into a web-based database. The data are captured in Pivot tables, which are used to produce reports. The reports include charts showing hospitalwide rates, unit-based rates, and rates for specific role groups, a breakdown of unit results by role group, comparative results for all units, numbers of observations, and special group reports.

Compliance reports are sent to all units and leaders on a monthly and quarterly basis. Dashboard reports are also developed for leadership. Anecdotal notes, positive or negative, may be shared with unit leaders who are trying to identify problem areas.

PowerPoint presentations are produced at least quarterly and presented to the Infection Control Committee and Combined Leadership group. The slides are also shared with hospital leaders for use in their own presentations. Presentations are also given to other groups upon request, including Quality & Safety groups, specialty services, ambulatory service groups, and specific departments or practices seeking to get involved with the program or improve practices in their area.

Champions

Champions are volunteers who are recruited to serve as peer leaders on each unit, and in every major department or service area. They include RNs, PCAs, housekeeping staff,

department leaders, and physicians. Their role is to provide peer education, feedback, and motivation for hand hygiene improvement.

Champions are given special training and are urged to maintain a positive approach to their efforts. They may contact the Infection Control unit if help or support is needed. They are given information, reports, updates, and special handouts – including “reward coupons” that may be used as on-the-spot rewards to individuals demonstrating good hand hygiene in their work area. The coupons have a \$1.00 value, may be used at any MGH food establishment, and are extremely popular. The motivational activities of the Champions have been imaginative and fun. They have used stickers, contests, email messages, poems, pictures, bulletin boards and homemade posters, dances, and candy rewards to spark interest and promote compliance.

A two-page “Champion Update” is produced quarterly, printed in color, and sent to each Champion along with their unit results and reward coupons. The update features program highlights and updates, progress reports, and tips for improvement.

Posters and Publicity

Posters featuring individuals or groups from MGH and a special hand hygiene message are produced three to four times per year, and inserted into acrylic wall frames installed in all inpatient units and many other MGH locations. There is no shortage of volunteers to be featured on posters.

Articles are routinely written and published in several hospital periodicals, which are available to the staff and public for free. Articles are also written for physician publications, special online messages, and other special communication channels. Hand hygiene activities at MGH were recently highlighted in a CBS Evening News report that focused on the recent increase in community-acquired MRSA.

Goals and Rewards

Compliance goals were gradually increased in the first two years of the program, and the current expectation is to achieve $\geq 90\%$ compliance both before and after contact. Units that achieve those rates for an entire calendar quarter are rewarded with a pizza or ice cream party. The hospital’s ultimate goal is to achieve 100%.

The Coupon Rewards (described under “Champions”) are very popular and useful. They give recognition to compliant individuals, attract attention to the program, and give the Champions a positive way to promote hand hygiene month after month.

A special “90/90” incentive reward was adopted by senior leadership. It linked half of the hospital’s annual bonus for employees to the hospitalwide achievement of $\geq 90\%$ compliance both before and after contact. This rate was achieved in September for the first time, and must be accomplished again in November before the full bonus is paid.

Patient & Visitor involvement

In addition to the materials described under “Education” and “Publicity,” informational displays for the public are set up during Infection Control Week every October and at special events, such as Cancer Survivor Day.

Patients are educated and encouraged to ask about hand hygiene practices. A video describing the hand hygiene program is available on the patient education TV channel and can be used by nurses to educate patients at the time of admission.

Leadership Involvement

Leadership involvement is crucial to the success of the program. Senior leadership (CEO and VPs) have articulated the hospital's goals for hand hygiene and their importance in regular communications to all staff and other leaders. Leadership at all levels is held accountable for hand hygiene performance in their areas of responsibility, and in 2007 half of the annual bonus for all employees has been linked to achieving the "90/90" goal.

Program Expansion

The Hand Hygiene Program is currently expanding to several key outpatient departments located on campus and to offsite Ambulatory Care Centers.

Cultural Change

Sustaining high levels of compliance with hand hygiene requires its incorporation into the culture of the institution. This culture requires, in addition to broad acceptance of hand hygiene as a standard of high-quality patient care, that workers reinforce high compliance behaviour in each other. To this end, in addition to the bonus incentive program in which everyone has a stake in high compliance, the STOP Taskforce sponsored a contest for the best slogan for promoting hand hygiene to develop a tool by which workers could remind each other about compliance. From several hundred entries, "Be an ACE" (an acronym for Always Cal Stat on Entering and Exiting) was chosen. The slogan is now included in promotional and educational materials for all staff.